

Claims 11, 13, 14, 18, 19, 21 and 26 stand rejected under 35 U.S.C. 112 second paragraph.

In addressing this rejection, the Applicants note as follows:

- (i) The Examiner is correct in the interpretation of Claim 11: the embodiment at issue refers to a laminate having an outer ply and an unlimited number of inner plies.
- (ii) The present amendment to Claim 13 is believed to address and overcome the stated rejection.

(For the record, contrary to the Examiner's statement, the "second polymeric resin" is limited by neither Claim 13 nor Claim 14: The Markush group recited in Claim 13 refers to the "first polymeric resin" only. Claim 14 that depends on Claim 13 recites nothing relative to the "second polymeric resin".)

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- (iii) The amendments to Claims 18, 19, 21 and 26 are believed to be responsive to the stated rejections and are overcoming the same.

The present invention relates to a heat sealable multi-ply laminate that comprises an outer ply and an inner ply. These plies are made of polymeric resins that differ one from the other in terms of, among others, their respective melt flow rates. Accordingly, at conventional heat sealing temperatures, the outer ply has a lower viscosity than that of the inner ply. This design of the sealing laminate was surprisingly and unexpectedly found to impart a combination of high seam strength immediately after heat sealing and the virtual absence of channels from the seam. Attention is directed to the working examples that are presented in the specification in pages 15-22. The results point to the absence of channels from the seam at temperatures higher than 115°C (see Examples 1.1 and 1.2 and compare these to 1.3). In accordance with the findings, Example 1.1 (representing the invention) is made of an outer ply, the resin of which has an MFR value of 3.7, that is greater than the MFR of the inner ply. Similarly, the laminate of Example 1.2 is structured in

similar fashion. Examples 1.1 and 1.2 show no channel in bags at 115 to 130°C whereas the laminate of Example 1.3 that is structured in a reverse order exhibits channel in bags at these temperatures. Compare also 2.1 with 2.3 where the criticality of MFR is expressed in terms of Max. Hot tack force, at 90 to 120°C.

Claims 1-13, 17, 19, 25-27 and 30 stand rejected under 35 U.S.C. 103(a) said to be unpatentable over JP403197137A. For the record, the document identified as JP403197137A, identified in Form -892 as "n"- is an abstract of the indicated document.

The heat shrinkable laminated film disclosed in JP403197137A entails a heat seal layer that comprises an inner layer (of low density polyethylene, EVOH or ionomer) and an outer layer that can be of low density polyethylene or EVOH. The outer layer constitutes an outer surface. The disclosed structure differs critically from the presently claimed laminate in that both its layers may be prepared of the same resin. Clearly, there is nothing in the '137 document to describe the present invention where the respective layers are required to differ one from the other in terms of their melt flow indices. In that structures wherein layers identical one to the other are regarded in the '137 document to be the functional equivalents of structures where the layers differ from each other, the document cannot reasonably be said to have disclosed the claimed laminate. Moreover, the experimental results presented in the instant application point to the criticality of the claimed structure, a criticality not suggested by the cited document. The rejection alleging obviousness over JP403197137A is requested, therefore, to be reconsidered and withdrawn.

Claims 1-21 stand rejected under 35 U.S.C. 103(a) said to be unpatentable over Hamada et al (U.S. Patent 5,759,675).

The multi-layered polyethylene film disclosed by the Hamada reference entails (column 3, lines 8, et. seq.) an intermediate layer containing mainly "A" - an LLDPE having a melt index (MI) of 0.1 to 1.5 g/10 minutes and "D"- an LLDPE having a MI value of 0.3 to 7.0 g/10 minutes. The film also contains an innermost and outermost layers which are made of a composition containing "B" - a high pressure polyethylene having a MI value of 0.3 to 7.0 g/10 minutes, "C" - an

ethylene- α -olefin copolymer having an MI value of 0.1 to 20 g/10 minutes, and "D" as describe above. The broad range of MI values, characterizing these layers, embrace structures where the layers have identical MI values as well as structures where the MI's differ one for the others.

There is nothing in the reference that describes the present invention, and nothing to point to the criticality of melt flow rate, the criticality having been established and demonstrated as discussed above. The rejection over U.S. Patent 5,759,675 is asserted to be untenable and its reconsideration and withdrawal are respectfully urged.

Claims 1-13, 17 and 25-30 stand rejected under 35 U.S.C. 103(a) said to be unpatentable over Heilmann et al. (U.S. Patent 5,783,269).

Heilmann disclosed a structure entailing an outer layer, a central layer and a supporting layer. The outer and supporting layers are characterized in terms of their softening temperatures: both are required to have a softening temperature higher than 121°C and they may be identical or differ one from the other. The central layer is required to have a softening temperature lower than 121°C. In applying the Heilmann document, the Examiner concedes that the reference is silent relative to the melt flow rates of the several plies.

This rejection over Heilmann is asserted to be untenable. Not only is the document silent relative to the melt flow rate, a critical parameter of the claimed laminate, but it describes structures (column 3, line 32) having outer and support layers that may be "different or identical". Regarding these as interchangeable, Heilmann cannot be said to describe the present invention that is based, in part, on the finding of criticality as discussed above. The rejection alleging obviousness over Heilmann is clearly untenable and its retraction is respectfully requested.

Claims 1-13, 17 and 20-30 stand rejected under 35 U.S.C. 103(a) said to be unpatentable over Kaschel et al. (U.S. Patent 5,885,707).

The Kaschel document disclosed a sealable laminate film containing a particular copolymer of ethylene (MPE) having a melt flow index of 0.5 to 10 g/10 minutes. The film may contain one or more layers and the MPE is always contained

in the sealing face. Further, the MPE material may be used alone or in mixture with other resins.


No recognition is evidenced in the reference relative to the critical dependence of the properties on the melt flow indices of the resins entailed in the structure of a sealable laminate. Clearly, the data presented in the application and discussed above serve to rebut any allegation of obviousness over Kaschel. The rejection over U.S. Patent 5,885,707 is clearly untenable and its withdrawal is requested.

Believing the above represents a complete response to the Office Action and that the application is in condition for allowance, Applicants request the earliest issuance of an indication to this effect.

Respectfully submitted,

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